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PATENT  
P56922

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

SEON-SOO RUE

Serial No.: 10/721,173

Examiner: *To be assigned*

Filed: 26 November 2003

Art Unit: 2661

For: APPARATUS FOR CONTROLLING LOAD BALANCE OF MULTI-ACCESS  
POINTS IN WIRELESS LAN SYSTEM AND METHOD THEREOF

**INFORMATION DISCLOSURE STATEMENT**

**Mail Stop: Application Number**

Commissioner for Patents

P.O.Box 1450

Alexandria, VA 22313-1450

Sir:

In accordance with 37 C.F.R. §1.56, and §§1.97 and 1.98 as amended, Applicant cites, describes, and provides copies of the following art references:

**U.S. PATENT REFERENCE:**

- U.S. Patent Publication No. 2001-0055285 to Tomoike, entitled MOBILE COMMUNICATION SYSTEM AND GATEWAY SELECTING METHOD THEREOF, published on 27 December 2001;
- U.S. Patent Publication No. 2002-0001467 to Tanaka *et al.*, entitled DRIVING MECHANISM USING SHAPE-MEMORY ALLOY, published on 3 January 2002;
- U.S. Patent Publication No. 2002-0176396 to Hammel *et al.*, entitled NETWORK



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CHANNEL ACCESS PROTOCOL-INTERFERENCE AND LOAD ADAPTIVE,  
published on 28 November 2002;

- U.S. Patent Publication No. 2003-0206532 to Shpak, entitled COLLABORATION BETWEEN WIRELESS LAN ACCESS POINTS, published on 6 November 2003;  
and
- U.S. Patent Publication No. 2003-0210672 to Cromer *et al.*, entitled BANDWIDTH MANAGEMENT IN A WIRELESS NETWORK, published on 13 November 2003.

**FOREIGN PATENT REFERENCE:**

- International Publication No. WO 2004/004227 A1 to Hasse, entitled LOAD BALANCING IN WIRELESS COMMUNICATION NETWORK, published on 8 January 2004.

**OTHER DOCUMENT:**

- *Search and Examination Report under Sections 17 and 18(3)* from the British Patent Office issued in Applicant's corresponding British Application No. GB0327228.3 (dated 21 April 2004).

**DISCUSSION**

As written in the British Search and Examination Report issued by the British Patent Office

on the 22nd April 2004 in applicant's corresponding British Patent application corresponding to applicant's above-captioned U.S. Patent Application, **Tomoike U.S.'285** relates to that in each gateway, data stored in a predetermined information server connected to the communication network which is obtained in response to a request from the mobile terminal; the format of the obtained data is converted according to restrictions on resources of the mobile terminal; load imposed on predetermined processes including the data obtainment and the format conversion is measured; and load data indicating information relating to the measured load is sent. In a mobile communication control apparatus for selecting one of the gateways, the load data communicated from each gateway is stored, and when receiving a request for obtaining the data stored in the information server from the mobile terminal, the apparatus selects a gateway based on the load data.

**Tanaka *et al.* U.S.'467** relates to the present invention that aims at providing a driving mechanism which is capable of selectively driving a plurality of driven members by a single drive source, thus being advantageous for minimization of devices.

**Hammel *et al.* U.S.'396** relates to a distributed, locally determined, channel access protocol that adapts to load, avoids interference and controls access by a group of nodes to a set of shared channels which is disclosed. Shared channel space is divided into a number of communication slots that are repeated at a predetermined interval. Permission to use a slot to communicate between any two nodes is dynamically adjusted by the channel access protocol, which locally: (i) estimates load to neighboring nodes; (ii) allocates or deallocates slot usage to adapt to load and avoid interference; and (iii) asserts and advertises slot usage within an interference area about itself.

**Shpak U.S.'532** relates to a method for mobile communication which includes arranging a plurality of access points in a wireless local area network (WLAN) to communicate on a common frequency channel with a mobile station. Upon receiving at one or more of the access points an uplink signal transmitted over the WLAN by the mobile station on the common frequency channel, the access points receiving the uplink signal arbitrate among themselves so as to select one of the

access points to respond to the uplink signal. A response is then transmitted from the selected one of the access points to the mobile station.

**Crommer *et al.*** U.S.'672 relates to an access point which provides dynamic load balancing of network bandwidth between access points within the 802.11 wireless LAN. The access point uses the RTS/CTS protocol to reduce the bandwidth available to a single device using an excessive amount of network bandwidth. The access point places a device that has been monopolizing a network channel on a Restricted List, and regulates bandwidth on the network by not returning a CTS to any client on the Restricted List. When the client's network usage drops below a policy client is removed from the list and the access point will respond to a RTS from the client with a CTS.

**Hasse WO'227** relates to that for load balancing in a wireless communication network comprising at least one subscriber terminal (T1, T2, T2) and a plurality of access points (AP1, AP2, AP3), a load control device (21:110) is used which is located outside of said subscriber terminal, wherein said load control device is adapted to process information related to a load in said wireless communication network and to instruct roaming of said subscriber terminal from an associated access point to another one of said plurality of access points. Access point status information (APST) determined in said plurality of access points (S10; S110) is received and communication status information related to said plurality of access points (S20; S120) is determined. The subscriber terminal processes (S20; S120) these information into roaming support information (RSUP), which are in turn processed (S40; S160) in said load control device an access point related load based roaming analysis. On this basis, it is decided (S50; S170) by the load control device, whether said subscriber terminal is to be associated with another one of said plurality of access points.

The citation of the foregoing references is not intended to constitute an assertion that other or more relevant art does not exist. Accordingly, the Examiner is requested to make a wide-ranging and thorough search of the relevant art.

Pursuant to 37 CFR § 1.97(d), the undersigned attorney hereby certifies that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign patent application not more than three(3) months prior to the filing of the statement.

No fee is incurred by this Statement.

Respectfully submitted,



Robert E. Bushnell

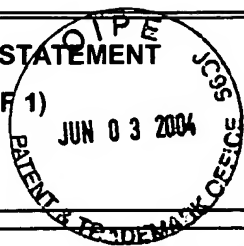
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# INFORMATION DISCLOSURE STATEMENT

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DOCKET NO. P56922

APPLICANT

SEON-SOO RUE

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GROUP

2661

## U.S. PATENT DOCUMENTS

EXAMINER	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	2001-0055285	12/01	Tomoike			
	2002-0001467	01/02	Tanaka <i>et al.</i>			
	2002-0176396	11/02	Hammel <i>et al.</i>			
	2003-0206532	11/03	Shpak			
	2003-0210672	11/03	Cromer <i>et al.</i>			

## FOREIGN PATENT DOCUMENTS

## TRANSLATION

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	YES	NO
WO 2004/004227 A1	01/04	WIPO			Abstract	

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

*Search and Examination Report under Sections 17 and 18(3) from the British Patent Office issued in Applicant's corresponding British Application No. GB0327228.3 (dated 21 April 2004).*

EXAMINER:

DATE CONSIDERED:

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP §609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.